

CLAIMS:

1. A lubricious coating comprising at least one ethylenically unsaturated resin and at least one thermoplastic hydrophilic aliphatic polyether polyurethane.
2. The lubricious coating of claim 1 wherein said hydrophilic aliphatic polyether polyurethane does not crosslink with said ethylenically unsaturated resin.
3. The lubricious coating of claim 1 wherein said at least one ethylenically unsaturated resin and at least one hydrophilic aliphatic polyether polyurethane form a polymer network.
4. The lubricious coating of claim 1 wherein said at least one ethylenically unsaturated resin possesses functional groups which are photochemically activatable.
5. The lubricious coating of claim 4 further comprising a photoinitiator.
6. The lubricious coating of claim 4 wherein said at least one ethylenically unsaturated resin possesses functional groups activatable by ultraviolet energy.
7. The lubricious coating of claim 1 wherein said at least one aliphatic polyether polyurethane is capable of absorbing about 100% to about 2000% of its own weight in water.
8. The lubricious coating of claim 1 wherein said at least one aliphatic polyether polyurethane is capable of absorbing about 200% to about 2000% of its own weight in water.
10. The lubricious coating of claim 1 wherein said at least one aliphatic polyether polyurethane is capable of absorbing about 500% to about 2000% of its own weight in water.
11. The lubricious coating of claim 1 further comprising at least one second polyurethane.
12. The lubricious coating of claim 11 wherein said second polyurethane absorbs less water by weight than said aliphatic polyether polyurethane.
13. The lubricious coating of claim 1 wherein said at least one ethylenically unsaturated resin is a member selected from the group consisting of mono-, di- and tri-acrylates, polyacrylates and mixtures thereof.
14. The lubricious coating of claim 13 wherein said at least one ethylenically unsaturated resin is a diacrylate.
15. The lubricious coating of claim 13 wherein said at least one ethylenically unsaturated resin is a member selected from the group consisting of butyl (meth)acrylate, methyl (meth)acrylate, ethyl (meth)acrylate, propyl (meth)acrylate, octyl

(meth)acrylate, heptyl (meth)acrylate, nonyl (meth)acrylate, hexyl (meth)acrylate, n-hexyl (meth)acrylate, isopropyl (meth)acrylate, isobutyl (meth)acrylate, decyl (meth)acrylate, isodecyl (meth)acrylate, lauryl (meth)acrylate, stearyl (meth)acrylate, behenyl (meth)acrylate and melissyl (meth)acrylate, methoxyethyl (meth)acrylate,
5 hydroxyl ethyl (meth)acrylate, glycidyl (meth)acrylate, 2-ethylhexyl (meth)acrylate, 2-ethoxyethyl (meth)acrylate, ethylene glycol di(meth)acrylate, propylene glycol di(meth)acrylate, diethylene glycol di(meth)acrylate, polyethylene glycol di(meth)acrylate, 1,5-pentanediol di(meth)acrylate, neopentyl glycol di(meth)acrylate (NPG), 1,6-hexanediol (meth)acrylate, 1,6-hexandiol di(meth)acrylate, polyethylene
10 glycol di(meth)acrylate, polypropylene glycol di(meth)acrylate, pentaerythritol tri(meth)acrylate, trimethylolpropane tri(meth)acrylate, trimethylolpropane dipentaerythritol penta(meth)acrylate, pentaerythritol tetra(meth)acrylate, triethylene glycol di(meth)acrylate, *n*-butyl (meth)acrylate, benzoin (meth)acrylate, glyceryl propoxy tri(meth)acrylate, 1,3-propylene glycol di(meth)acrylate, tripropylene glycol
15 di(meth)acrylate, 1,3-butylene glycol di(meth)acrylate, 1,4-butanediol di(meth)acrylate, 1,6-hexanediol di(meth)acrylate, diethylene glycol di(meth)acrylate, triethylene glycol di(meth)acrylate, tetraethylene glycol di(meth)acrylate, methyl ethacrylate, ethoxylated bisphenol-A-di(meth)acrylate, and mixtures thereof.

16. The lubricious coating of claim 1 wherein said at least one ethylenically
20 unsaturated resin is selected from the group consisting of styrene, divinylbenzene, acrylamides,

17. The lubricious coating of claim 1 wherein said ethylenically unsaturated resin is a one-part system.

18. A medical device comprising the lubricious coating of claim 1.

25 19. A lubricious coating comprising at least one ethylenically unsaturated resin and at least one hydrophilic polyurethane capable of absorbing about 100% to about 2000% of its own weight in water.

20. The lubricious coating of claim 19 wherein said at least one hydrophilic polyurethane is capable of absorbing about 200% to about 2000% of its own weight in
30 water.

21. The lubricious coating of claim 19 wherein said at least one hydrophilic polyurethane is capable of absorbing about 500% to about 2000% of its own weight in water.

22. The lubricious coating of claim 19 wherein said at least one hydrophilic polyurethane is an aliphatic polyether polyurethane.
23. The lubricious coating of claim 19 wherein said aliphatic polyether polyurethane is thermoplastic.
- 5 24. The lubricious coating of claim 19 wherein said at least one ethylenically unsaturated resin comprises at least one member selected from the group consisting of (meth)acrylates, styrene, divinyl benzene, acrylamides, (meth)acrylic acids, carboxylic acids, and mixtures thereof.
- 10 25. The lubricious coating of claim 19 wherein said at least one ethylenically unsaturated resin is a mono-, di, or tri-acrylate, polyacrylate or mixture thereof.
26. The lubricious coating of claim 25 wherein said at least one ethylenically unsaturated resin is neopentylglycol diacrylate, polyethylene glycol diacrylate or mixture thereof.
- 15 27. A medical device comprising a lubricious coating, said lubricious coating comprising at least one ethylenically unsaturated resin and at least one polyurethane capable of absorbing about 500% to about 2000% of its own weight in water.
28. A medical device comprising a lubricious coating, said lubricious coating comprising at least one ethylenically unsaturated resin and at least one aliphatic polyether polyurethane wherein said at least one aliphatic polyether polyurethane does
- 20 not crosslink.
29. The medical device of claim 28 wherein said at least one ethylenically unsaturated resin comprises functional groups which are photochemically activatable.
30. The medical device of claim 29 further comprising at least one photoinitiator.
31. The medical device of claim 29 wherein said at least one ethylenically
- 25 unsaturated resin comprises functional groups which are activatable by ultraviolet radiation.
32. The medical device of claim 28 wherein said at least one aliphatic polyether polyurethane is capable of absorbing about 100% to about 2000% of its own weight in water.
- 30 33. The medical device of claim 28 wherein said at least one aliphatic polyether polyurethane is capable of absorbing about 200% to about 2000% of its own weight in water.

34. The medical device of claim 28 wherein said at least one aliphatic polyether polyurethane is capable of absorbing about 500% to about 2000% of its own weight in water.
35. The medical device of claim 28 wherein said at least one ethylenically unsaturated resin comprises at least one member selected from the group consisting of mono-, di- and tri- acrylates, polyacrylates and mixtures thereof.
36. The medical device of claim 28 wherein said at least one ethylenically unsaturated resin is a diacrylate.
37. The medical device of claim 36 wherein said at least one ethylenically unsaturated resin comprises at least one member selected from the group consisting of butyl (meth)acrylate, methyl (meth)acrylate, ethyl (meth)acrylate, propyl (meth)acrylate, octyl (meth)acrylate, heptyl (meth)acrylate, nonyl (meth)acrylate, hexyl (meth)acrylate, n-hexyl (meth)acrylate, isopropyl (meth)acrylate, isobutyl (meth)acrylate, decyl (meth)acrylate, isodecyl (meth)acrylate, lauryl (meth)acrylate, stearyl (meth)acrylate, behenyl (meth)acrylate and melissyl (meth)acrylate, methoxyethyl (meth)acrylate, hydroxyl ethyl (meth)acrylate, glycidyl (meth)acrylate, 2-ethylhexyl (meth)acrylate, 2-ethoxyethyl (meth)acrylate, ethylene glycol di(meth)acrylate, propylene glycol di(meth)acrylate, diethylene glycol di(meth)acrylate, polyethylene glycol di(meth)acrylate, 1,5-pentanediol di(meth)acrylate, neopentyl glycol di(meth)acrylate (NPG), 1,6-hexanediol (meth)acrylate, 1,6-hexandiol di(meth)acrylate, polyethylene glycol di(meth)acrylate, polypropylene glycol di(meth)acrylate, pentaerythritol tri(meth)acrylate, trimethylolpropane tri(meth)acrylate, trimethylolpropane dipentaerythritol penta(meth)acrylate, pentaerythritol tetra(meth)acrylate, triethylene glycol di(meth)acrylate, *n*-butyl (meth)acrylate, benzoin (meth)acrylate, glyceryl propoxy tri(meth)acrylate, 1,3-propylene glycol di(meth)acrylate, tripropylene glycol di(meth)acrylate, 1,3-butylene glycol di(meth)acrylate, 1,4-butanediol di(meth)acrylate, 1,6-hexanediol di(meth)acrylate, diethylene glycol di(meth)acrylate, triethylene glycol di(meth)acrylate, tetraethylene glycol di(meth)acrylate, methyl ethacrylate, ethoxylated bisphenol-A-di(meth)acrylate and mixtures thereof.
38. The medical device of claim 37 wherein said at least one crosslinkalbe material is selected from the group consisting of neopentyl glycol diacrylate, polyethylene glycol diacrylate and mixtures thereof.
39. The medical device of claim 28 wherein said at least one ethylenically unsaturated resin comprises at least one member selected from the group consisting of

styrene, divinyl benzene, acrylamides, carboxylic acid, (meth)acrylic acids, and mixtures thereof.

40. The medical device of claim 28 wherein said medical device is a catheter assembly.

- 5 41. The medical device of claim 40 wherein said lubricious coating is on a guide wire, dilatation balloon, catheter shaft or combination thereof.